

The University of Chicago

THE AMALGAMATED SOCIETY OF
ENGINEERS, 1851-1892
A CASE STUDY IN WELFARE POLICY

A PART OF A DISSERTATION SUBMITTED TO
THE FACULTY OF THE DIVISION OF THE
SOCIAL SCIENCES IN CANDIDACY FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF ECONOMICS

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THOMAS HOBEN ROBINSON

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Although trade union policy is welfare policy little of the extensive literature on the subject deals with it in other than historical and descriptive terms. There is much on the evolution of trade unions, and there is a wealth of material describing what they have done and do. But, concerning the economist's question of how trade unions affect the welfare of their members there is no answer in quantitative terms. The qualitative aspects of trade union policy have been stressed to the virtual neglect of the quantitative aspects. This essay is a venture into this neglected field. In the discussion which follows, an attempt is made to estimate and account for the effect of the trade union policy of an English trade union, the Amalgamated Society of Engineers, upon the welfare of its members between 1851 and 1892.

The choice of the A.S.E. as a case in point was dictated by the outstanding position this union occupied in the trade union world. Shortly after its organization in 1851, the A.S.E. became not only one of the largest and most powerful unions in the country but also the model upon which many other unions were fashioned. According to the Webbs, "scarcely a trade exists which did not, between 1852 and 1875, either imitate the whole constitution of the Amalgamated Engineers, or incorporate one or another of its characteristic features."¹ Nor was the influence of the A.S.E. confined to the British Isles. In 1879, the cigar makers in the United States, under the leadership of Samuel Gompers and Adolph Strasser, the former of whom was familiar with British trade unionism, reorganized their union, the International Cigar Makers' Union, on the pattern of the A.S.E. With some modification, "the system of government in the Cigar Makers' International Union was later used as a model by other national and international trade unions."² Under the circumstances, therefore, conclusions with respect to the effect of the policy of the A.S.E. upon the welfare

¹ Sidney and Beatrice Webb, History of Trade Unionism (London, 1920), p. 224.

² John R. Commons et al., History of Labour in the United States (New York, 1926), II, 307-8.

of its members may serve as a clue to the effect of similar policies upon the welfare of the members of other unions that used the A.S.E. as a model.

I

In the Society's first set of rules, the members declared their purposes to be "mutual assistance in time of need, a regulation of the conditions of labour that its benefits may be mutually enjoyed, and a well-regulated organization to prevent a surplus of labour in our trade." To attain these objectives, the A.S.E. combined the features of a friendly society and a trade union. As regards organization, the Society consisted of local branches acting under the provisions of an elaborate code of rules and supervised through a head office in London by an elected, part-time Executive Council and a full-time, paid general secretary. Additions to and alterations of the rules, as well as final decisions on their meaning, were made by an assembly representative of the entire membership and called a delegate meeting. In friendly society matters, the branches were accorded some liberty of action. In trade union matters, on the other hand, all activity, local and national, was presumed to be subject to the control of the Executive Council. The Council acted through district committees elected locally but responsible to it. Support for an extensive program of benefits and aids involved a high rate of contribution--a shilling a week--and the maintenance of large reserve funds. One result of the high contribution was that the membership was restricted--as it was intended it should be--to the more highly skilled, better paid workers.

The forty-two years of A.S.E. activity from 1851 to 1892 may be divided into two periods. The first, from 1851 to 1874, was a period of unprecedented prosperity during which England was clearly the world's leading industrial nation. During these years, engineers were in great demand because of the rapid expansion of the engineering industry. Apart from a spectacular and disastrous struggle with the employers in 1852, the A.S.E. pursued an eminently pacific course, typifying the essentially conservative, constitutional character of the trade unionism of these years. In matters affecting the trade union movement as a whole, the A.S.E. rarely acted alone, but rather through a representative organization such as the London Trades Council or the Trades Union Congress. In these organizations, the A.S.E. possessed great influence, and, through them, participated in the presentation of the trade unions' case before the Royal Commission on Trades Unions in 1867 and in the later agitation for a more secure legal status

for unions. As an organization, the A.S.E. would have nothing to do with direct political action, and, hence, took no part in the Reform Movement of the sixties.

The second period, from 1875 to 1892, was largely a period of depression broken by occasional years of prosperity. During this period, England's industrial supremacy was challenged by other nations. Although engineering and shipbuilding expanded, the keen competition and the uncertainties of trade made the lot of the workers in these industries much less stable than it had been. For the A.S.E., these were years of transition. Depression and the aggressive tactics of the employers forced the Society to devote more and more of its attention to its trade union aspects. Technological changes and the spirit of the New Unionism of the late eighties and early nineties caused the A.S.E. to open its ranks to a wide variety of workers so that it became an inclusive rather than an exclusive organization. Slowly, opposition to direct intervention in political affairs changed to approval. And the dominant part played by the A.S.E. in trade union matters was challenged by other large and growing unions. The period was brought to a close by the delegate meeting of 1892, a meeting that gave effect to the forces remoulding the organization and policies of the Amalgamated Society.

As a friendly society, the A.S.E. provided assistance in a wide variety of contingencies. Unemployment, old age, sickness, accident, unusual distress, loss of tools, legal difficulties arising out of union membership, and death--all were emergencies in which the Society provided aid. As a trade union, the Society sought to control the supply of labor in those trades which it regarded as significant. The members argued that the supply of labor in relation to the demand determined the rate of wages. To control the rate of wages, therefore, it was necessary to control the supply of labor. To this end, the Society pursued an elaborate policy. Even the friendly society provisions were, many of them, closely connected therewith. In the following brief description of the A.S.E.'s trade union policy, attention will be directed to the efforts of the Society to: (1) define the approved trades; (2) restrict the numbers entering these trades; (3) include eligible workmen within its ranks; (4) preserve the approved trades for approved workers; (5) withhold "surplus" labor; (6) spread the available work among as many members as possible; and (7) bargain collectively.

(1) As a first step, it was necessary to define those crafts whose workmen were sufficiently competitive to affect one another's wages unless they acted in combination. This definition of jurisdiction, or of workers approved for membership, was

essentially a definition of competing groups. It was the object of the Society to reduce these competing groups to a non-competing status.

With changes in industrial technique, this category of competing groups was subject to change, a situation that made it necessary for the A.S.E. to redefine its jurisdiction from time to time. When first organized in 1851, the Amalgamated Society provided for the admission of fitters, turners, smiths, millwrights, pattern makers, and machine-joiners working at the steam engine and machine making business. Instead of becoming an inclusive organization as its sponsors had hoped, the Society was limited to the skilled workers in one branch of engineering. In 1852 and in 1854, there were proposals to admit such artisans as moulders, boiler makers, roller turners, spindle and fly makers, forge men, engine-drivers, grinders, brass-workers, planers, borers, machine-men, and hammermen. However, only the planers and borers were found acceptable.¹ No additions were made thereafter until 1874 when shipwrights were declared eligible.²

On the whole, the A.S.E. did little about the existence of competing groups in non-approved trades between 1854 and 1874. This does not mean that competing groups did not exist; they did, and the rapid changes in technique were creating more of them. However, this was England's "golden age." With the exception of a few short periods of slack trade, the demand for the labor of engineers was so considerable that the problem of unincluded competing workers was not acute. But, when depression succeeded prosperity, the A.S.E. began to take notice of the large number of workers who competed, often successfully, with its members for the relatively few available positions. Before the end of 1875, the Executive Council remarked on the number of reports that laborers were doing the work of mechanics.³ Subsequently, notices that members were faced with the competition of workers in other trades became more and more common.⁴ Shortly thereafter, the

¹Amalgamated Society of Engineers, Minutes of the Delegate Meeting of the Amalgamated Society of Engineers, 1852 (Glasgow, 1852); ibid., 1854 (London, 1854). This reference will be cited below as Minutes.

²Amalgamated Society of Engineers, Rules, 1864 (London, 1864); ibid., 1874 (London, 1874). This reference will be cited below as Rules.

³Amalgamated Society of Engineers, Monthly Report, December, 1875. This reference will be cited below as Monthly Report.

⁴See, for example, Amalgamated Society of Engineers, Abstract Report of the Proceedings of the Executive Council of

Society moved to reduce the number of competing groups. In 1885, the following craftsmen were declared eligible for membership: slotters, mechanical draftsmen, brass finishers and coppersmiths employed in the engineering trades, and machine-joiners employed in the construction of cotton, silk, flax, woollen, or other machinery.¹ Still there was dissatisfaction with the scope of the Union's jurisdiction, and, in 1892, under the spell of the New Unionism, the A.S.E. recast its rule respecting eligible craftsmen to read as follows:

The society shall consist of members belonging to the following trades or branches:- Smiths, Ship Smiths, Angle Iron Smiths, Fitters, Turners, Roll Turners, Pattern Makers, Millwrights, Mechanical Draftsmen, Planers, Borers, Slotters, and other machine men; Brass Finishers and Coppersmiths employed in the engineering and shipbuilding trades; Electrical Engineers; Machine-Joiners employed in the construction of cotton, silk, flax, woollen, or other machinery; Die Sinkers, Press Tool Makers, Stampers or Drop Hammer Forgers, in the engineering and kindred trades who are in receipt of the rate of wages fixed for such branch of trade by the district committee.²

(2) Generally speaking, only those who had undergone a training period of at least five years (in the case of planers and borers, seven years) in one of the approved trades were recognized as having a right to work at the trade. In addition, the Society sought to restrict the number of admissions to the approved trades by regulating the ratio of apprentices to journeymen. Actually, no formal rules to this effect were adopted, but steps were taken to prevent an unduly large number of apprentices.³ The proportion of apprentices to journeymen that was considered equitable varied somewhat according to the work involved. In tool making shops, a ratio of one apprentice to three journeymen was approved, while in locomotive shops, one to four was deemed ample.⁴ Later, in 1892,

the Amalgamated Society of Engineers, July, 1876--December, 1877. This reference will be cited below as Abstract Report. See also, Monthly Report, November, 1878; *ibid.*, April, 1881.

¹Rules, 1885 (London, 1885). ²*Ibid.*, 1892 (London, 1892).

³Royal Commission on Trades Unions, 1867, Minutes of Evidence, First Report (London, 1867), p. 38, q. 881, evidence of William Allan, general secretary of the A.S.E.; *ibid.*, Tenth Report (London, 1868), p. 44, qq. 18,887-889, evidence of C. F. Beyer, an employer.

⁴Amalgamated Engineering Union, Head Office, Letter Books of the Amalgamated Society of Engineers, Allan to the Llanelly Branch, April 1, 1864; Allan to the Newry Branch, October 26, 1866. Henceforth, this reference will be cited in a shortened form that will include the writer, the addressee, and the date. These Letter

it was asserted that the Society regarded one to four as a proper ratio and was prepared to offer resistance if the proportion rose higher than one to three.¹

(3) Not all workmen engaged in the approved trades were eligible for admission to the Amalgamated Society. Furthermore, not all admissions were of individual applicants; some were admitted as whole societies or branches joined en masse. The conditions under which individual applicants were admitted may be summarized as follows: each applicant was required to be between the ages of twenty-one and forty-five (later, in 1864, changed to forty) years; he must have served the customary period of apprenticeship; he must be in good health; he must be sufficiently competent to be earning the "ordinary rate"² of wages for the district in which he was employed; he must not be a member of any other trade society; and he must not have acted in any manner prejudicial to the interests of the Society or its members. Should he satisfy these requirements, the applicant was admitted upon payment of an entrance fee scaled according to his age. That these requirements were strictly enforced is apparent from the numerous references in the correspondence and periodical Reports to the rejection of applicants and the exclusion of members for failure to satisfy them. In fact, a contemporary writer made special note of this feature of the A.S.E.'s policy.³ This anxiety to secure a membership of high quality was due mainly to self-interest, as unhealthy or incompetent members would have been a drain on the Society's funds.

Books date from 1854. Each Book, or Volume, contains approximately a thousand letter-press reproductions of outgoing letters arranged chronologically. Many of the letters, particularly the earliest, are illegible due to fading. All but a few of the Volumes are indexed by addressee, but none by subject. Unfortunately, incoming correspondence was not preserved until a later date. This fact, together with the curt, incisive manner in which Allan, and, later, the other head office officials, wrote often make it impossible to discover the exact significance of many of the communications.

¹Royal Commission on Labour, 1891, Digest of the Evidence taken before Group A, Mining, Iron, Engineering, Hardware, Ship-building and Cognate Trades (London, 1893), III, 35, evidence of J. Whittaker, an official of the A.S.E.

²In 1866, the "ordinary rate" was defined as the rate usually paid to members starting work in a fresh shop. It was not the average rate either of the members or of the district as a whole (Amalgamated Engineering Union, Head Office, Wage Inquiry, 1866, the MS records of an investigation conducted by the Executive Council of the A.S.E.).

³Journeyman Engineer [Thomas Wright], Some Habits and Customs of the Working Classes (London, 1867), p. 60, n. 1.

As bad trade set in in 1875 and as the competition of non-Society workmen in the approved trades became more severe,¹ the members awoke to the necessity of liberalizing the principles of admission. Two small changes were made in 1885. The entrance fee for younger applicants was reduced, and a change was made in the interpretation of the term "ordinary rate" of wages. Some time after 1866, the ordinary rate came to be defined as the average rate received by the members in a given trade in a given district. Inasmuch as the average rate of the members was above that of the district as a whole² many competent non-members earning sometimes even more than the district average were ineligible. Accordingly, the ordinary rate was redefined as the average for the district as a whole.³ But it remained for the delegate meeting of 1892 to alter the conditions of admission sufficiently to take care of most of those in the approved trades. As revised, the rules provided for four classes of members, namely, full, probationary, trade, and trade protection members. Of these classes, the last three were new to the A.S.E. Candidates for full membership were admitted on the terms already described. Apprentices between the ages of eighteen and twenty who had worked two years at an approved trade were eligible for admission as probationary members. Workmen between the ages of thirty and forty could be admitted as trade members, and those between the ages of forty and forty-five as trade protection members. Members in these last three classes had only limited friendly society privileges.⁴

Long before 1851, the engineers realized that an inclusive membership was essential to the success of their trade union

¹Monthly Report, December, 1875; ibid., November, 1878; ibid., April, 1881.

²Amalgamated Engineering Union, Head Office, Trade Inquiry, 1862. This is the MS record of a special inquiry made under the direction of the Executive Council of the A.S.E. See also T. J. Dunning, Trades' Unions and Strikes (2d ed. revised; London, 1876), pp. 18-19; and the Abstract Report, July, 1888--December, 1890.

³Minutes, 1885 (London, 1885).

⁴In opening its ranks to workmen in approved trades but heretofore ineligible, the A.S.E. followed the lead of a number of other unions in the engineering industry. For example, the United Society of Boiler Makers and Iron and Steel Ship Builders, the Friendly Society of Ironfounders, and the Amalgamated Association of Metal Planers, Shapers, Slotters, Horizontal Borers, and Milling Machine Workers had provisions similar to those adopted by the engineers in 1892 (Royal Commission on Labour, 1891, Rules of the Associations of Employers and Employed [London, 1892], pp. 33-34; 47-48; Appendix II, "Rules of Certain Societies Printed in Full," pp. 398-418).

policy. This realization was one of the main factors that induced the Journeymen Steam Engine and Machine Makers and Millwrights' Friendly Society, frequently called the Old Mechanics, to take the lead in the proceedings that led to the amalgamation in 1851. Although the abstention of the Moulders' and Boiler Makers' Societies and the defection of the Steam Engine Makers' Society (a rival of the Old Mechanics) had dealt a severe blow to the idea of one big union in the engineering trades, the A.S.E. did not lose sight of its goal. From the very first, the Society was eager to absorb competing societies, and this eagerness was intensified as such societies became more numerous and increased the sectionalism in the industry. On the whole, only the smaller local organizations amalgamated with the A.S.E. None of the larger national unions was willing to lose its identity.

(4) A society that sought to limit the number of trained workmen in the trade could not be expected to view the employment of laborers and partly skilled workmen with equanimity. William Allan, the general secretary, testified before the Royal Commission in 1867 that the Society had no rule regarding unskilled workmen and machinery, although it was customary to obtain the employment of members as far as possible on machines that were introduced.¹ Actually, the Society strongly opposed the introduction of laborers to work machines, and the members were advised to quit work whenever such a situation arose.² However, should it be impossible to keep laborers out of a shop, members were to have nothing to do with them, were, in fact, to send them to Coventry.³

One assumption basic to the policy of the A.S.E. was that the trades over which the Society claimed jurisdiction could be defined clearly. If, for any reason, a satisfactory definition were lacking, "overlapping" of jurisdiction was possible, and any one of a number of groups of workmen in other trades could claim the right to work at what were regarded as the engineers' trades. Consequently, to the extent that adequate definition was lacking, the control of the Society over the supply of labor was endangered.

Jurisdictional, or demarcation, disputes occur most frequently when industrial changes are rapid, and, for this reason, were especially numerous in the engineering and shipbuilding industries during the latter part of the nineteenth century. The

¹Royal Commission on Trades Unions, 1867, Minutes of Evidence, First Report, p. 30, qq. 641-43.

²Allan to the Lincoln Branch, April 22, 1858; Allan to the Blackburn District Committee, July 29, 1867.

³Allan to the Ashford Branch, August 1, 1867.

change from the relatively simple wooden sailing ships to the elaborate steam-powered floating palaces built of steel erased the old craft lines. Workers in wood found themselves in conflict with workers in metal; plumbers followed their trade to the ships and met with the opposition of the fitters; shipwrights and joiners, joiners and pattern makers, boiler makers and smiths--all wrangled over the right of their trade to a particular piece of work. As a result, the A.S.E., time and again, found itself embroiled with other unions as it asserted the right of its members to work at their trades or protested against the invasion of these trades by workers from other crafts. Furthermore, the policy of the A.S.E. in expanding its jurisdiction helped to bring it more and more into conflict with the growing sectional unions. This tendency was accentuated by the desire of each union to secure for its members as much employment as possible, especially during slack trade.

Two proposals were made by workers interested in abolishing these demarcation disputes. One, sponsored by the Boiler Makers' Society, involved the organization of a federation of unions in the engineering and shipbuilding industries. Such an organization was created in 1890, and one of its main functions was the settlement of demarcation difficulties.¹ Although the A.S.E. had been interested in the idea of federation in the late seventies,² the Society did not associate itself with the Federation of Engineering and Shipbuilding Trades for the reason that the Federation recognized and perpetuated precisely those sectional lines that provided the basis for demarcation disputes. Accordingly, the A.S.E. urged amalgamation as a solution for these inter-union quarrels. Amalgamation, by absorbing all the workers in the engineering and shipbuilding trades would reduce competing groups, and, consequently, demarcation disputes, to a minimum. No small part of the campaign for amalgamation in the late eighties and early nineties was inspired by the desire to rid the trades of these internecine struggles.

(5) Of primary importance to the A.S.E.'s policy was some provision to make it unnecessary for unemployed members to compete with one another for the available jobs in such a manner as to reduce wage rates unduly. To this end, the Society made extensive preparation through its system of benefits and aids. These included a regular unemployment, or donation, benefit payable to any

¹Royal Commission on Labour, 1891, Digest of the Evidence taken before Group A, III, 22, evidence of Robert Knight, of the Boiler Makers' Society.

²Monthly Report, March, 1875; Abstract Report, June, 1875--December, 1877; ibid., January, 1878--June, 1878.

member out of work under conditions satisfactory to his branch; a contingent benefit payable in addition to the regular donation benefit to members unemployed by reason of participation in an industrial dispute; a full wage benefit given to members who were victimized by employers because of their union membership; and an emigration benefit designed to reduce the "surplus" of labor and payable to members wishing to settle overseas. There is no record of an award of this last benefit. Furthermore, the members realized that non-members, by taking positions vacated during a dispute, could render the Society's policy ineffective. Accordingly, an assistance to others' fund was maintained for the purpose of putting non-members in the non-competing class whenever the necessity arose. Even the superannuation benefit was not without significance in preventing the competition of workers for jobs. When first awarded, this benefit was in the nature of a wage supplement, the assumption being that recipients would continue to work at their trades, although at a reduced rate of pay. Not many years passed, however, before the members realized that they were encouraging older members to undermine the rates received by others. Consequently, it was ordered that, in future, members drawing superannuation benefit must not work at their trades.

(6) For its own protection as well as for service to the members, the Society was obliged to devise methods of bringing unemployed members and vacant jobs together. A member applying for donation benefit was required daily to sign a register of unemployed called a "vacant book" and kept, usually, at the branch meeting place. Members in employment were required to report immediately any vacancies of which they were aware. Notices of these vacancies were posted where the vacant book was kept, and unemployed members were obliged to accept suitable work or lose their benefit rights. Members were forbidden, under pain of a fine, to obtain work for non-members.

It had long been customary for engineers to travel from place to place in search of work when trade was dull in their own districts. To meet this situation, the Society provided any member who wished to go to a place where work was reported available with a travelling certificate to be deposited with the secretary of the branch in any place at which he stopped en route. If a member on travel wished donation benefit, the amount he was given was noted on his certificate; if he stopped any length of time at any place, he was obliged to sign the vacant book as he would have been in his own district. In addition to the foregoing provisions, any branch secretary, on receiving notice from the head office of the Society, or from another branch secretary, that workmen were needed in a particular district, was required to send any unemployed

members in that district. Members so sent were entitled to the regular travelling assistance plus an allowance for transportation expenses.

On the whole, the policy just outlined not only helped the members as individuals and protected the funds of the Society but also served to increase the mobility of labor within the engineering trades. From another point of view, the Society was attempting to spread the available work among as many members as possible. Consistent therewith, consequently, were the persistent efforts of the Engineers to eliminate systematic overtime, to shorten the working day,¹ and to prevent the introduction of piecework.² For the same reason, the Society objected to the operation of more than one machine at a time by one workman.³

(7) The collective bargaining activities of the A.S.E. underwent an interesting development in the course of which two periods, 1851-1874 and 1875-1892, appear. During the first period, the actual rate of wages was less a subject for bargaining with the employers than those conditions, such as overtime, the length of the working day, piecework, the ratio of apprentices to journeymen, and the employment of unskilled workers, that affected the Society's control over the supply of labor. It was the opinion of the members, expressed by William Allan, that wages "regulate themselves" if these other factors are taken care of.⁴

For the most part, negotiations with the employers were conducted by district committees acting under the direction of the Executive Council. However, when the Council so decided, it could take matters directly into its own hands. For some years after 1852, the memory of the disastrous consequences of direct action, anxiety to preserve the funds of the Society for the support of its many benefits, and the prevalence of good trade combined to convince the engineers that more was to be gained by peaceful means

¹Royal Commission on Trades Unions, 1867, Minutes of Evidence, First Report, p. 39, qq. 890-93; Royal Commission on Labour, 1891, Digest of the Evidence taken before Group A, III, 34-35; Amalgamated Society of Engineers, Report Prepared by the Amalgamated Society of Engineers for the Royal Commission on Labour (London, 1892), pp. 5-6; Tom Mann, What a Compulsory Eight Hours Working Day Means to the Workers (London, 1886).

²Times, January 12, 1875, a letter from John Burnett, the general secretary of the A.S.E.

³Allan to the Bristol Branch, September 13, 1861; Allan to the Bath Branch, October 28, 1865; Allan to the Stanningley Branch, October 31, 1870.

⁴Royal Commission on Trades Unions, 1867, Minutes of Evidence, First Report, p. 35, qq. 794-96.

than by violent. Even when negotiations failed, members were cautioned against striking; instead, they were advised to refuse individually to accept the objectionable conditions. Any member discharged for so refusing was entitled to benefit.¹ Concerted strikes were to be avoided. Advice to this effect occurred with monotonous regularity in the instructions sent by the Council to the various branches and district committees. Furthermore, after 1852, the Society abandoned any attempt to obtain concessions from any large number of employers at the same time and adopted the practice of getting what it could from individual employers whenever the circumstances warranted. This policy of local opportunism carried on cautiously and directed at the non-monetary aspects of the labor contract does not appear to have provoked much resentment among the employers.

During the second period, the A.S.E.'s collective bargaining activities underwent considerable change. To begin with, depression and aggressive action by the employers forced the Society to take a more active and direct interest in the actual rates of pay. It was during this period that the Union began seriously to object to piecework on the ground that it introduced bargaining difficulties as well as on the ground that the practice permitted some to do more than their "rightful" share of work. In the second place, technological changes, the growth of the engineering and shipbuilding industries, and the increase in the number of workmen employed therein made the Society less able to conduct negotiations with the employers independently. More and more, it was becoming necessary to take into account, and to obtain the co-operation of, the workers in allied trades. Usually, this co-operation was informal and arose out of some immediate need. In the late seventies, more formal organization in the nature of a federation was considered by the A.S.E. Later, when a federation was organized in 1890, the Society withheld its adherence, preferring, instead, to push its policy of amalgamation. In the third place, a change was brought about by the geographic expansion of the engineering and shipbuilding industries. In the earlier period, districts were often so far apart that district committees could act independently of each other. In this later period, many of these formerly separated districts expanded until they became contiguous, with common rather than separate problems. Resulting

¹Allan to the Lincoln Branch, April 22, 1855; Allan to the Manchester Office, July 29, 1855; Allan to the Doncaster Branch, November 12, 1864; Allan to the Bradford District Committee, November 1, 1865; Allan to the Nottingham Branch, April 25, 1867; Allan to the Ashford Branch, August 1, 1867.

therefrom was an arrangement whereby these contiguous districts could bargain jointly with the employers through central and consolidated district committees. This process of integration went on until 1892 when the delegate meeting reorganized the country into six large districts for collective bargaining purposes. Finally, the Society developed a more aggressive trade union policy; no longer was it hesitant about adopting direct action to enforce its requests.¹

II

In attempting an estimate of the effect of the A.S.E.'s policy upon the welfare of its members, consideration will be given to trends in (1) the real incomes of members and of non-members, and (2) the real incomes of members (a) in districts in which the Society possessed a high degree of control and (b) in districts in which the Society had comparatively little control.

Although the A.S.E. was an engineers' union, it did not admit to membership all engineering workers; hence data representing trends in the wages of all engineering workers are likely to be misleading with respect to the trends in the wages of Society-members. Accordingly, it has been necessary to select some class of workers as representative of the membership as a whole and to assume that trends in the wages of these workers are indicative of the course of members' wages. For this purpose, the fitters have been selected; and their selection seems justifiable inasmuch as fitters and turners together comprised four-fifths of the membership of the A.S.E.² and the wages of fitters and turners were usually the same.³

¹The foregoing summary of developments relative to the A.S.E.'s trade union policy is condensed from T. H. Robinson, "The Amalgamated Society of Engineers, 1851-1892: A Mid-Victorian 'Model' Trade Society." Unpublished Doctor's thesis, Department of Economics, Division of the Social Sciences, University of Chicago, 1936.

²From 1875 to 1882, the total number of admissions to the A.S.E. was 25,040. Of this number, 14,294, or 57 per cent, were fitters, and 6,641, or 26.5 per cent, were turners. Similarly, between 1886 and 1892, the Society admitted 40,959 members, of whom 24,781, or 60.5 per cent, were fitters, and 10,756, or 21.5 per cent, were turners (Amalgamated Society of Engineers, Annual Reports, 1875-1882 inclusive, 1886-1892 inclusive [London]).

³A. L. Bowley and G. H. Wood, "The Statistics of Wages in the United Kingdom During the Last Hundred Years," Part XIV, Engineering and Shipbuilding, E, Averages, Index Numbers, and General Results, Journal of the Royal Statistical Society, LXIX (1906), 158-61.

(1) The trends in the real incomes of workers in all industries, of those employed in engineering and shipbuilding, and of fitters are presented in the form of index numbers in Table I and graphically in Figure 1. From the data therein presented, it appears that the trend of the real income of fitters approximated rather closely the trend of the real income of the workers in all industries from 1850 to 1863, was, if anything, slightly higher. From 1863 to 1867, the real income of fitters fell more rapidly than did that of all workers; and, from 1867 to the end of the period, the real income of all workers increased much more rapidly than did the real income of fitters. Furthermore, the real income of all workers in the engineering and shipbuilding industries failed to increase as rapidly as did that of the working class as a whole, although it did increase faster than that of fitters. Additional and confirmatory evidence appears in a comparison of the real income of fitters with that of workers in certain selected industries, namely, agriculture, building, textiles, and gas.¹ These comparisons, for certain years between 1860 and 1891, appear in Table II and in Figure 2. According to these data, only the agricultural workers' real income lagged behind that of the fitters, and then only after 1885, comparatively late in the period. The relatively greater rate with which the real incomes of workers in the textile and gas industries increased is especially marked. Some additional evidence, corroborative of the trends indicated, exists for the Manchester district and is recorded in Table III. The very much smaller increase calculated for fitters is particularly striking. In view of the foregoing evidence, there is little doubt but that the real income of the members of the A.S.E. increased much less rapidly than did the real income of the working class as a whole.

(2) Further refinement of the data in Table I is necessary if the influence of the A.S.E. is to be estimated. The figures presented so far relate to the country as a whole, but it happens that wages in the engineering and shipbuilding industries varied considerably from district to district. Hence any average or index number based on rates from many districts is likely to conceal differences among the districts when such differences may be significant for the purposes of this study. Thus it is important to

¹Agriculture was selected because it was one of the most weakly organized industries, building because it represented one of the other industries demanding considerable skill and because it had a history of considerable organization, the textile industry because it was one of the principal industries in the country, and the gas industry because it was typical of the industries employing semi-skilled and unskilled workers.

TABLE I

INDEX NUMBERS OF RETAIL PRICES, AND OF MONEY WAGES AND REAL WAGES OF WORKERS IN ALL INDUSTRIES, IN ENGINEERING AND SHIPBUILDING, AND OF FITTERS, 1850-1892 INCLUSIVE, BY YEARS

Year	Retail Prices ^a	All Industries ^b		Engineering and Shipbuilding ^c		Fitters ^d	
		Money Wages	Real Wages	Money Wages	Real Wages	Money Wages	Real Wages
1850	90	90	100	93	103	92	102
1851	88	90	102	94	108	93	106
1852	88	90	102	95	108	93	106
1853	96	97	101	100	104	96	100
1854	110	100	91	102	93	99	90
1855	113	102	90	102	90	100	88
1856	113	102	90	103	91	100	88
1857	107	99	92	102	95	102	95
1858	99	97	99	100	101	100	101
1859	97	99	102	100	103	100	103
1860	100	100	100	100	100	100	100
1861	103	100	97	101	98	101	98
1862	100	102	102	102	102	102	102
1863	97	103	106	104	107	102	105
1864	96	109	114	105	109	102	106
1865	97	110	113	107	110	103	106
1866	103	116	112	109	105	105	102
1867	109	115	105	106	97	104	95
1868	107	114	106	105	98	104	97

^aIndex numbers of retail prices are computed from index numbers in Sir Walter T. Layton and Geoffrey Crowther, An Introduction to the Study of Prices (2d ed.; London, 1935), Appendix E. "Statistics Illustrating Changes in Wages and in the Standard of Living," pp. 265-66. Messrs. Layton and Crowther use 1850 as the base year. In this table, 1860 is taken as the base year.

^bIndex numbers of money wages in all industries are based on index numbers in Layton and Crowther, op. cit. Index numbers of real wages have been computed without allowance for unemployment.

^cIndex numbers of money wages in the engineering and shipbuilding industries are from Bowley and Wood, op. cit., LXIX (1906), 158-61, and are based on unweighted averages for twenty-six occupations. Index numbers of real wages have been computed without allowance for unemployment.

^dIndex numbers of fitters' money wages are from Bowley and Wood, op. cit., LXIX (1906), 158-61. Index numbers of real wages have been computed without allowance for unemployment.

TABLE I--CONTINUED

Year	Retail Prices	All Industries		Engineering and Shipbuilding		Fitters	
		Money Wages	Real Wages	Money Wages	Real Wages	Money Wages	Real Wages
1869	102	114	111	106	104	104	102
1870	102	117	114	108	106	106	104
1871	102	121	118	112	109	107	105
1872	108	129	119	118	109	112	104
1873	110	136	124	120	109	114	104
1874	105	137	130	122	116	116	110
1875	102	135	132	122	119	117	114
1876	99	133	135	122	123	116	117
1877	102	132	129	122	119	116	113
1878	99	130	131	121	122	115	116
1879	93	129	139	116	125	111	119
1880	97	129	133	117	121	111	115
1881	95	129	136	121	127	113	119
1882	96	129	134	124	129	117	122
1883	92	131	142	126	137	119	129
1884	90	131	146	122	136	117	130
1885	87	131	151	121	139	116	133
1886	83	130	156	118	142	113	136
1887	80	131	164	119	149	113	141
1888	80	132	165	124	155	117	146
1889	82	137	166	129	157	120	146
1890	82	143	174	132	161	123	150
1891	83	143	173	132	160	123	148
1892	83	142	172	130	157	121	146

know if the trends in wage rates in districts in which the Society was strongly organized were greatly different from trends in districts in which the Society was weakly organized. In this connection, it is necessary to assume a relationship between wage rates and earnings (and hence real income) that is significant for the purposes of this analysis. However, there is reason to believe that this assumption is well-founded.¹ At any rate, wage rates and real incomes based thereon in four districts, London, Manchester, Newcastle, and Glasgow, will be studied.

London and Manchester, in contrast to Newcastle and Glasgow, were strong A.S.E. centers. London had long been an engineers'

¹ Bowley and Wood, op. cit., LXIX (1906), 179-80.

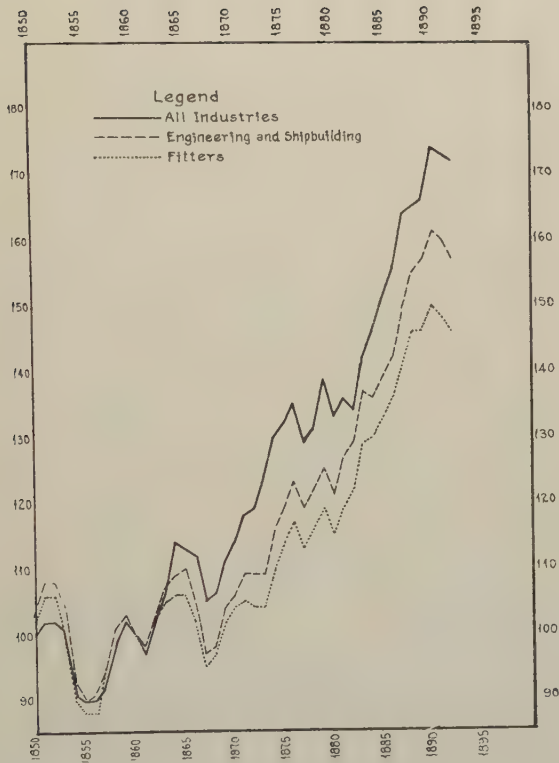


Fig. 1.--Real wages of workers in all industries, in the engineering and shipbuilding industries, and of fitters, 1850-1892.

TABLE II
INDEX NUMBERS OF MONEY WAGES AND OF REAL WAGES OF FITTERS AND OF WORKERS
IN FOUR SELECTED INDUSTRIES IN SELECTED YEARS, 1860-1891^a

Year	Fitters ^b		Agriculture		Building		Textiles		Gas	
	Money Wages	Real Wages	Money Wages ^c	Real Wages	Money Wages	Real Wages	Money Wages	Real Wages	Money Wages ^d	Real Wages
1860	100	100	100	100	100	100	100	100	100	100
1866	105	102	105	102	116	112	120	116	115	111
1870	106	104	107	105	116	104	121	118	120	117
1874	116	110	130	124	126	120	141	134	125	119
1877	116	113	132	129	128	125	141	138	128	125
1880	111	115	122	126	125	129	132	136	128	132
1883	119	129	117	127	125	136	140	152	130	141
1886	113	136	111	134	126	152	143	172	130	157
1891	123	148	118	142	128	154	160	193	149	180

^a Index numbers of money wages of workers other than fitters are from A. L. Bowley, "Changes in Average Wages (Nominal and Real) in the United Kingdom between 1860 and 1891," Journal of the Royal Statistical Society, LVIII (1895), 239. The index numbers of real wages have been calculated from the index numbers of retail prices listed in Table I. The year 1860 is the base year.

^b Table I.

^c Limits of error are given by Professor Bowley as follows: for 1866, plus or minus 5; for 1870, plus or minus 2; for 1874, plus or minus 5; for 1877, plus or minus 3; and, for 1883, plus or minus 4 (Bowley, *op. cit.*).

^d Limits of error are given by Professor Bowley as follows: for 1870, plus or minus 5; for 1874, plus or minus 10; and, for 1886, plus or minus 5 (*ibid.*).

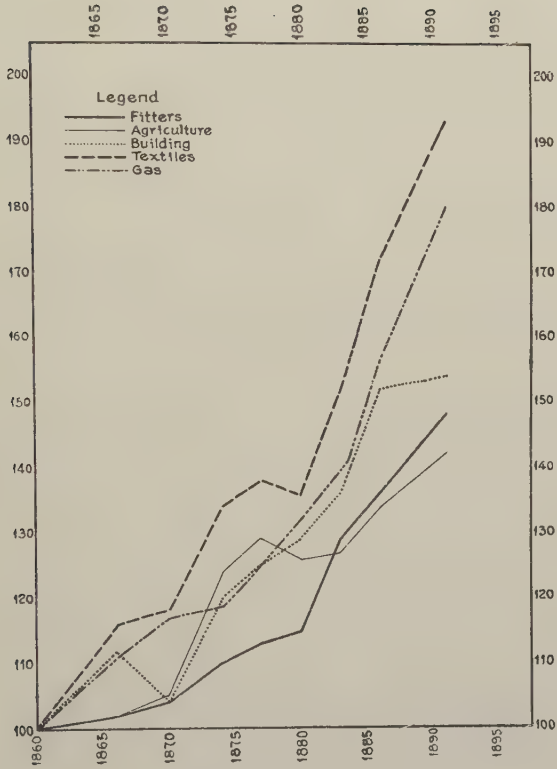


Fig. 2.--Real wages of fitters and of workers in four selected industries, 1860-1891.

TABLE III

PERCENTAGE INCREASE IN WAGES IN A NUMBER OF TRADES
IN THE MANCHESTER DISTRICT BETWEEN 1850 AND 1883^a

Trade	Percentage Increase
Cotton.....	40.7
Bleaching.....	50.0
Calico Printing.....	50.0
Fitters, Turners, etc.	10.3
Smiths.....	24.0
Carpenters and Joiners.....	50.0
Bricklayers.....	46.0
Masons.....	34.0
Plasterers.....	31.0
Laborers.....	32.0
Mechanics.....	77.0

^aJ. S. Jeans, "On the Comparative Efficiency of Labour at Home and Abroad," Journal of the Royal Statistical Society, XLVII (1884), 636.

stronghold. It was the seat of the millwrights' combination that had been the immediate cause of the Combination Laws,¹ and had been a center of powerful craft organizations even while these laws were in effect.² From the very first, the head office of the A.S.E. had been located in London. Manchester was another powerful trade union center. This city had been the headquarters of the Old Mechanics, and, since 1852, Manchester had been a sufficiently important Society district to maintain a special office with a paid, full-time official in charge. Moreover, J. Whittaker told the Royal Commission on Labour in 1892 that there were not more than 500 non-Society men in the Manchester district as compared with 5,130 members.³

With Newcastle and Glasgow, the situation was different. Before 1871, Newcastle was poorly organized, at least as far as

¹Journal of the House of Commons, April 5, 1799; ibid., April 9, 1799. See also J. L. and B. Hammond, The Town Labourer, 1760-1832 (London, 1925), pp. 115 ff.

²Sir William Fairbairn, The Rise and Progress of Civil and Mechanical Engineering (Derby, 1857), p. 20; Webb, op. cit., p. 91, n. 2.

³Royal Commission on Labour, 1891, Minutes of Evidence taken before Group A, Mining, Iron, Engineering, Hardware, Shipbuilding, and Cognate Trades, III (London, 1893), 158, qq. 22,767-768.

the Society was concerned.¹ As an indication of this lack of organization, it was asserted that only one in eight of the 9,000 engineers who took part in the Nine Hours Movement in Newcastle in 1871 was a member of the A.S.E.² Shortly thereafter, membership increased very rapidly, and the Society's officials drew attention to the fact that the wage rate had risen from a 24s. minimum in 1871 to an average of 32s. 10d. in 1875.³ This result was attributed to organization, but it must be remembered that the period was one of exceptional prosperity, that many engineers had left Newcastle to take employment elsewhere during the Nine Hours Movement,⁴ and that the employers, in consequence, were both able and willing to pay higher wages to attract the labor they needed. Meanwhile, Newcastle became an important shipbuilding center. This industry grew rapidly after 1870 and was characterized by frequent and far-reaching technological changes. As a result, demarcation disputes and the rivalries of competing sectional societies served to lessen whatever effectiveness these organizations might have had had they combined or been united in policy. Actually, Newcastle was well organized in 1892, but by so many different societies that no one organization possessed much power.⁵

In the case of Glasgow, there is reason to believe that, at one time, the A.S.E. had been fairly strong. Before the amalgamation, the Old Mechanics had an influential branch in Glasgow, and the district was an important steam engine and textile machinery making center. Further, as will appear below, wage trends in the fifties and sixties were similar to wage trends in London and Manchester where the Society was strongly organized. However, evidence as to the degree of control exercised by the Society in the fifties and sixties is not conclusive. After 1870, however, shipbuilding came to be a dominant industry, and the A.S.E.'s control over the supply of labor was definitely weak as the growth of sectional societies and the influx of non-Society men helped to

¹John Burnett, "Trades Unions as a Means of Improving the Conditions of Labour," in J. Oliphant (ed.), The Claims of Labour (Edinburgh, 1886), p. 91.

²Allan to the Peterborough Branch, June 26, 1871. See also the Beehive, July 15, 1871; and ibid., October 14, 1871.

³Burnett, in Oliphant, op. cit.

⁴The great majority of A.S.E. members were reported, on September 14, "to have been at work in other parts of the country long ago" (Times, September 14, 1871).

⁵Royal Commission on Labour, 1891, Minutes of Evidence taken before Group A, III, 187, qq. 23,330-332.

lessen whatever influence the Society had had. For example, the Engineers were powerless to prevent, or to avoid becoming involved in, a dispute between the Clyde shipwrights and their employers in 1877.¹ Again, in 1878, it was asserted that "the want of organization among all classes of workmen is so great that the Clyde Central District Committee and the Glasgow Local District Committee have been obliged to allow matters to drift."² Furthermore, it was declared that the fifty-one hour week in Glasgow had been lost mainly because of the large number of non-union workers.³ And, in 1892, testimony was given to the Royal Commission that the Glasgow district was poorly organized.⁴

In view of the foregoing, an analysis of the wage trends in these four districts should reveal something of the influence of the A.S.E. To facilitate this analysis, trends in retail prices, in wage rates, and in real wages as shown by index numbers are presented in Table IV. It should be pointed out that the index numbers of retail prices relate to the country as a whole. It is assumed, however, that differences due to local conditions would not materially affect the conclusions drawn.

One of the most significant facts that is indicated by the data in Table IV is the stability of the standard rate over considerable periods of time, particularly in London and Manchester. Further evidence to this effect is contained in the testimony of William Allan before the Royal Commission on Trades Unions in 1867 and of J. Whittaker before the Royal Commission on Labour in 1892. Allan stated that London wages had risen only 10 per cent during the preceding thirty years. Furthermore, London rates had been as constant and regular from 1840 to 1852 as they were from 1852 to 1866.⁵ Whittaker asserted that Manchester rates had scarcely changed during the preceding twenty years.⁶ And, for a considerable period before 1872, there is evidence suggesting little

¹Monthly Report, July, 1877.

²Ibid., November, 1878.

³Amalgamated Society of Engineers, Annual Report, 1879 (London, 1880); Amalgamated Society of Engineers, Jubilee Souvenir Year Book (London, 1901), p. 71.

⁴Royal Commission on Labour, 1891, Minutes of Evidence taken before Group A, III, 187, qq. 23,330-332.

⁵Royal Commission on Trades Unions, 1867, Minutes of Evidence, Ninth Report (London, 1868), p. 25, q. 16,993. See also Ibid., Tenth Report, p. 49, q. 18,988, evidence of John Robinson, for corroboration.

⁶Royal Commission on Labour, 1891, Minutes of Evidence taken before Group A, III, 153, q. 22,694.

TABLE IV

INDEX NUMBERS OF RETAIL PRICES, OF WEEKLY TIME RATES AND
OF REAL WAGES OF FITTERS IN FOUR SELECTED DISTRICTS,
1851-1892 INCLUSIVE, BY YEARS

Year	Retail Prices ^a	London		Manchester		Newcastle		Glasgow	
		Time Rates ^b	Real Wages	Time Rates ^c	Real Wages	Time Rates ^d	Real Wages	Time Rates ^e	Real Wages
1851	97	89	92	..	..	..	..	..	..
1852	97	89	92	..	..	..	..	..	..
1853	106	89	84	..	..	..	..	..	..
1854	122	89	73	..	..	..	..	..	..
1855	126	89	71	..	..	..	..	..	..
1856	126	89	71	..	..	..	..	..	..
1857	119	89	75	..	..	..	..	..	..
1858	109	89	81	..	..	..	..	..	..
1859	107	89	83	..	..	..	..	..	..
1860	111	89	80	..	..	..	..	..	..
1861	114	89	78	..	..	..	..	..	..
1862	111	92	83	..	..	..	..	..	..
1863	107	92	86	..	..	..	..	..	..
1864	106	92	87	..	..	..	..	..	..
1865	107	92	86	..	..	..	..	..	..
1866	114	95	83	..	..	..	..	..	..
1867	121	95	79	..	..	..	..	..	..
1868	119	95	80	..	..	..	..	..	..
1869	113	95	84	..	..	..	..	..	..

^aLayton and Crowther, op. cit. In this table, the year 1884 has been taken as the base year.

^bThese index numbers are based on A.S.E. rates cited in A. L. Bowley and G. H. Wood, "The Statistics of Wages in the United Kingdom During the Last Hundred Years," Part X, Engineering and Shipbuilding, A, Trade Union Standard Rates, Journal of the Royal Statistical Society, LXVIII (1905), 122-29.

^cThese index numbers are based on rates cited in Bowley and Wood, op. cit., LXVIII (1905), 110-17. These rates are trade union figures, and, while not specifically so designated, are assumed to be representative of the course of wages of A.S.E. fitters. This assumption is made on the grounds that the A.S.E. was the largest and most powerful union in the country having fitters in its ranks, that most union fitters were A.S.E. members, and that other unions admitting fitters tended to follow the lead of the A.S.E. in setting the standard rate for this class of workers (Royal Commission on Labour, 1891, Minutes of Evidence taken before Group A, III, 212-13, qq. 23,691-692, evidence of J. Swift, general secretary of the Steam Engine Makers' Society).

^dSee note c.

^eSee note c.

TABLE IV--CONTINUED

Year	Retail Prices	London		Manchester		Newcastle		Glasgow	
		Time Rates	Real Wages	Time Rates	Real Wages	Time Rates	Real Wages	Time Rates	Real Wages
1870	113	95	84	..	..	75 ^g	67	89 ^h	80
1871	113	95	84	.. ^f	..	..	..	..	..
1872	120	95	80	94 ^f	78	..	..	..	..
1873	122	95	78	..	..	..	..	..	..
1874	117	95	81	100	86	97	83	97	83
1875	113	95	84	100	89	97	87	97	87
1876	110	95	87	100	91	94	86	97	88
1877	113	95	84	100	89	94	84	97	86
1878	110	95	87	100	91	91	83	97	88
1879	103	95	92	94	91	88	85	97	94
1880	107	95	89	94	88	91	85	97	91
1881	105	95	91	100	95	93	89	100	95
1882	106	95	90	100	94	94	89	100	94
1883	108	100	92	100	92	100	92	100	92
1884	100	100	100	100	100	100	100	100	100
1885	96	100	104	100	104	100	104	100	104
1886	92	100	109	94	102	94	102	106	115
1887	89	100	112	94	106	94	106	106	119
1888	89	100	112	100	112	105	118	106	119
1889	91	100	110	100	110	106	116	110	121
1890	91	100	110	100	110	106	116	110	121
1891	92	100	109	100	109	109	118	110	119
1892	92	100	109	100	109	109	118	110	119

^fMonthly Report, August, 1872.

^gBurnett, in Oliphant, *op. cit.*

^hBeehive, November 26, 1870, reported that 912 fitters were employed in Glasgow at twenty-four shillings per week and 536 at twenty-five shillings. The index number above is based on a nominal rate of twenty-five shillings. The higher rate was selected because the members of the A.S.E. usually obtained somewhat higher rates than non-members.

alteration in the rates paid. T. C. Herves paid thirty shillings per week to his skilled workmen engaged in making textile machinery in 1824.¹ David Chadwick has estimated that fitters were paid thirty shillings per week in 1839 and in 1849, and thirty-two

¹Select Committee on Artisans and Machinery, 1824, Minutes of Evidence (London, 1824), p. 345.

shillings per week in 1859.¹ John Robinson, a Manchester employer, handed a memorandum to the Royal Commission on Trades Unions in 1868 in which the rates for fitters showed little variation from 1851 to 1866.² In 1862, the Manchester branches reported an average of twenty-nine shillings and ninepence per week.³ In 1866, the rate below which no applicant could be admitted in Manchester was twenty-nine shillings.⁴ And, in 1872, the ordinary rate was reported to be thirty-two shillings.⁵ The additional evidence with regard to Glasgow reveals an interesting situation, namely, that the wage rates of fitters from 1856 to 1870 were practically constant. Fitters' rates in 1856 were twenty-five shillings per week, in 1857, twenty-four shillings, and, in 1858, twenty-four shillings.⁶ In 1862, the members of the A.S.E. received an average wage of 23s. 6d.⁷ In 1863, the rate for fitters was twenty-four shillings;⁸ in 1866, the ordinary rate was twenty-four shillings;⁹ and, in 1870, it was reported that 912 fitters were employed at twenty-four shillings and 536 at twenty-five shillings.¹⁰ By contrast, the relative flexibility of the Glasgow rate after 1870 is noticeable. In this connection, it is necessary to add that the stability of the rate from 1875 to 1880 was not as great as the data of Messrs. Bowley and Wood indicate. Thus, it was officially stated by the A.S.E. that there had been a reduction of 7.5 per cent in Glasgow in 1878 and a similar reduction again in 1879.¹¹

In summary of the above evidence, it appears that, in areas in which the A.S.E. was strongly organized, the rate of wages tended to fluctuate little; while in areas in which the Society was weakly organized, the rate of wages tended to be more flexible. There is, furthermore, some reason for thinking, as shown by the developments in Glasgow, that the rate of wages tended to become more flexible as the control of the Society weakened.

¹David Chadwick, "On the Rate of Wages in Manchester and Salford and the Manufacturing Districts of Lancashire, 1839-1859," Journal of the Royal Statistical Society, XXII (1860), 25.

²Royal Commission on Trades Unions, 1867, Minutes of Evidence, Tenth Report, p. 59.

³Trade Inquiry, 1862.

⁴Wages Inquiry, 1866.

⁵Monthly Report, August, 1872.

⁶Return of Wages, 1887 (London, 1887), p. 188.

⁷Trade Inquiry, 1862.

⁸Return of Wages, 1877, p. 188.

⁹Wages Inquiry, 1866.

¹⁰Beehive, November 26, 1870.

¹¹Monthly Report, April, 1879.

Inasmuch as the degree of control exercised by the Society was one of the prime variables in these situations, it does not seem unreasonable to ascribe a considerable share of the responsibility for the conditions described to the policy of the Society.

While wage rates tended to possess a certain degree of stability, no such quality characterized retail prices, and, hence, real incomes. For the period 1851 to 1892, real incomes in the three districts for which data are available increased. However, these forty-two years are really two periods, 1851 to 1873 and 1874 to 1892. The first of these two periods was marked by generally rising prices with now and then a sharp decline compensated shortly by an even greater increase. In view of the fact that wage rates in London and Manchester were relatively constant, there is reason to believe that real incomes in these districts declined in the manner shown in Table IV, and, probably were no higher in 1873 than in 1851. It is possible also that the same situation existed in Glasgow. Concerning the second period, a period of declining prices, it will be observed that real incomes rose substantially in all districts, but that the relative increases in the weakly organized districts of Newcastle and Glasgow were greater than in the strongly organized districts of London and Manchester. These trends are presented graphically in Figure 3.

Generalizations with respect to the effect of the policy of the A.S.E. are now possible. In the first place, the Society was unable to secure for its members as rapid an increase in their standard of living as was achieved by the working class as a whole. In the second place, the Society was unable, between 1851 and 1873, to prevent a fall in the real income of members in those areas in which it was most strongly organized, or, at the best, was able only to maintain their real income. And, in the third place, between 1874 and 1892, the Society did not secure as rapid an increase in the standard of living of its members in those areas in which it was strongly organized as in those areas in which it was weakly organized. On the whole, the policy of the A.S.E., to the degree that it was effectively applied, was a rate-stabilizing rather than a real-income-stabilizing influence. In a period of rising prices, the preoccupation of the Society with supply-controlling conditions rather than with the rate of wages resulted in a situation in which the strongest trade union in the country, during the country's greatest prosperity, was unable, at the most, to do more than maintain the standard of living of its members in those areas in which it possessed the greatest degree of control. On the other hand, in a period of falling prices, such as 1874 to 1892, preservation of the rate of wages assured the members of an increase in their standard of living, always provided, however,

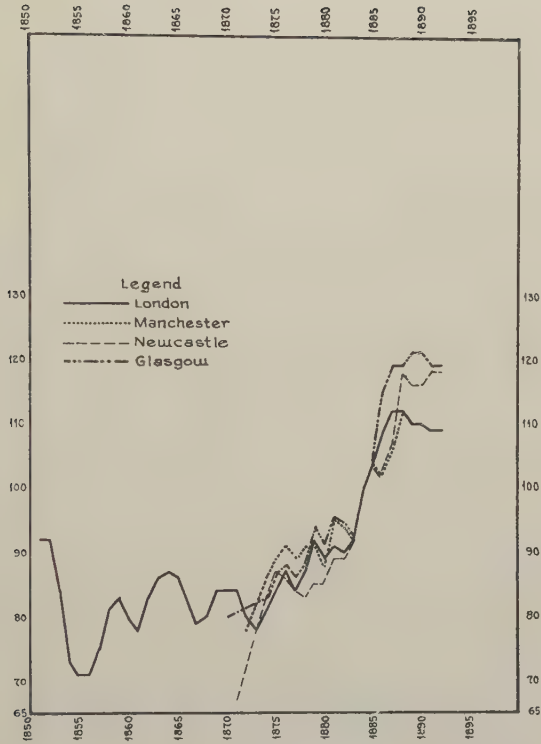


Fig. 3.--Real wages of fitters in four selected districts, 1851-1892.

that such increase was not offset by increased unemployment due to inflexible or "sticky" wages. Even then it cannot be said that the Society's policy was the responsible factor inasmuch as those areas in which the Society was relatively weak experienced a more rapid increase in real income than did those areas in which the Society was relatively strong.

However, in connection with these conclusions, it should be noted that, even in 1892, the members of the Amalgamated Society were among the best paid workers in the country. What is more, the trends in wages described above involve relative, not absolute, changes. Even though the real income in one district, such as Glasgow, increased more rapidly than in another district, such as London, the standard of living in the latter still may have been higher than in the former at the end of the period under consideration. Nor is the effect of the Society upon the rate of wages the sole criterion by which to judge its usefulness to the members or the only way it could affect their standard of living. The administrative provisions that developed in connection with the unemployment benefit were of great service. Through the vacant book, members could more easily find work when necessary. Should the search for work take them to strange areas, it was worth a good deal to know a comfortable bed and reliable information concerning the state of the trade were available at the Society's branch meeting place. It would be difficult, also, to evaluate the help the members received from the Society's extensive systems of benefits and aids. All told, the A.S.E. spent £1,718,144 on unemployment assistance of one sort or another, £799,228 on sick benefit, £616,657 in superannuation allowances, £245,096 in funeral benefit, £105,711 in aiding non-members, £79,618 in assisting members overcome by a sudden emergency, £58,040 in accident and disability cases, or a total of £3,622,494 in the years from 1851 to 1892.¹ Yet these figures on benefit expenditure are a cold appraisal of the human values that were preserved by the Amalgamated Society. Despite the apparent ineffectiveness of the Society in attempting to preserve the members' relatively superior real income status, they were assured that through unemployment, illness, old age, accident, and death, they would receive protection. Neither starvation nor the inhospitable shelter of the workhouse need trouble them as long as they remained members in good standing.

In the light of the above analysis, certain developments connected with the A.S.E. are more readily understandable. For example, it was in the years 1870, 1871, and 1872 that the Newcastle, Blackburn, and even the Manchester District Committees

¹Robinson, op. cit., chap. ix.

took action to secure weekly instead of fortnightly payment of wages. This action was taken on the ground that it was becoming increasingly difficult to keep from going into debt under the latter system.¹ This problem had not risen before, and it is reasonable that it should have appeared at the time that it did in view of the analysis made. Furthermore, it was in the early seventies that the character of the disputes with the employers began to change. More and more, the rate of wages became a major issue along with the problems of overtime, apprentices, and piecework. Thirdly, from 1875 on, the Society developed a more aggressive collective bargaining policy. And, finally, from 1875 to 1892, the changes in organization and in membership policy reflect, in some measure, the relatively slow improvement in the economic status of the members. The shift from a relatively quiescent policy to one that was aggressive and contemplated direct political action can hardly have been due entirely to the persuasive eloquence of others. If the latter were the case, it is indeed surprising that the Chartists' agitation in the pre-amalgamation days and the Reform Movement in the sixties evoked no greater organized support from the aristocratic engineers. As a matter of fact, it was necessary for the economic status and problems of the engineers to be more like the economic status and problems of the great majority of other workers before the engineers would participate vigorously in activities involving all the workers.

III

In view of the apparent inability of the A.S.E. to secure an improvement in the status of its members as considerable as the improvement in the status of the working class as a whole, the question arises as to why this should have been. No definitive answer can be given to this question in this essay, but several factors of major importance will be indicated. In the first place, it will be recalled that the Society's policy presumed control of the supply of labor. This presumption was scarcely in accord with the facts. Some conception of the extent to which this was the case may be gained from Table V. The data in this table represent an estimate, from Census figures, of the number of workers employed in the occupations over which the Society claimed jurisdiction. The results are no more than a first approximation, but they are, nevertheless, rather illuminating. Census figures are not avail-

¹Monthly Report, July, 1870; *ibid.*, June, 1871; *ibid.*, March, 1872; *ibid.*, August, 1872. See also *Journeyman Engineer, The Great Unwashed* (London, 1868), pp. 166-67.

TABLE V

NUMBERS EMPLOYED IN THE OCCUPATIONS OVER WHICH THE AMALGAMATED SOCIETY OF ENGINEERS CLAIMED JURISDICTION, MEMBERSHIP OF THE AMALGAMATED SOCIETY OF ENGINEERS, AND PERCENTAGE THE LATTER CONSTITUTED OF THE FORMER, 1851, 1861, 1871, 1881, AND 1891

Year	Engine and Machine Making	Mill-wrights	Machines	Ship-wrights	x Total	y A.S.E. Membership	Percentage of x
1851	54,819 ^a	8,385 ^b	.....	.....	60,204	11,829	19.6
1861	61,266 ^c	7,966 ^d	.....	.....	69,232	22,862	33.0
1871	106,437 ^e	7,547 ^f	.....	.....	113,984	37,740	33.1
1881	.....	.....	160,797 ^g	23,930 ^h	184,727	46,101	24.9
1891	.....	.....	210,974 ⁱ	54,307 ^j	265,281	71,221	26.8

^aCensus of Great Britain, 1851, Population Tables, Part II, Ages, Civil Condition, Occupations, and Birth-Place of the People (London, 1854), I, xciii.

^bIbid., p. xciv.

^cCensus of England and Wales, 1871, General Report (London, 1873), IV, 1 [fifty].

^dThe Census data for 1861 were not immediately available, hence this figure for millwrights is an interpolation.

^eCensus of England and Wales, 1871, General Report, IV, 1 [fifty].

^fIbid.

^gCensus of England and Wales, 1881, Vol. III, Ages, Conditions as to Marriage, Occupations, and Birth-Places of the People (London, 1883), p. vii.

^hIbid., p. xxii.

ⁱCensus of England and Wales, 1891, Vol. III, Ages, Conditions as to Marriage, Occupations, and Birth-Places of the People (London, 1893), p. viii.

^jIbid., p. xxiv.

able for each craft listed in the A.S.E.'s statements of approved trades. In the Censuses of 1851, 1861, and 1871, data were collected concerning those engaged in engine and machine making, excluding millwrights. As steam engine makers, machine makers, and millwrights constituted the bulk of the membership of the A.S.E., the figures cited in Table V are probably not far wrong. In 1881, the method of occupational classification was changed. For that year and for 1891, data were collected on "persons working and dealing in machines and implements." This group was further classified into sub-groups of those who worked at making the following products: machines; tools and implements; clocks, watches, and philosophical instruments; surgical instruments; arms and ordnance; musical instruments; type, dies, medals, and coins; and tackle for sports and games. From the comment in the Census Reports on changes in these various occupations, it appears that the sub-class engaged in machine-making (which included millwrights) is the most important for the purposes of this study: the number of members classified under the other sub-groups was small. It will be recalled, however, that the Society opened its ranks to shipwrights in 1874; hence, the figures for these workers must be added to those for workers engaged in making machines in 1881 and in 1891. The results of these calculations are embodied in Table V. Inasmuch as 1851 was the first year of the Amalgamated Society, too much importance should not be attached to the calculations relating thereto. It is worthy of note that, compared with the Census data for 1861 and 1871, Allan's estimate in 1867 that the Society included between two-thirds and three-fourths of the workmen in the trade was misleading.¹ This statement may have been correct as far as the workmen who were qualified to join the A.S.E. were concerned. However, there were considerable numbers engaged in engineering who were ineligible for admission. Confirmation of the estimate for 1891 appears in an article written that year by Albert Bigby, a prominent member of the Society. Bigby was advocating both amalgamation and a more inclusive definition of the Society's jurisdiction, and, in the course of his argument, stated that

there are engaged in the engineering trade in the United Kingdom some 250,000 persons, less than one-half of whom are eligible for membership in the A.S.E. on its present basis; and another 45,000 are really skilled men doing skilled work, but not eligible according to the rules of the A.S.E., many of them being machine hands only who have not served the

¹Royal Commission on Trades Unions, 1867, Minutes of Evidence, First Report, p. 29, q. 626.

necessary period as learners or do not come up to the requisite standard for the sick benefit. . . .¹

On the whole, the figures in Table V reflect a lessening control over the supply of labor by the A.S.E. The officials of the Society were well aware of this situation. Not infrequently, they found it necessary to advise members that a strike would be useless because non-members would fill the positions vacated by the members almost at once.² Furthermore, it was concern over this trend that led the Society to redefine its jurisdiction and to foster amalgamation in the late eighties and early nineties.³

In the second place, the extensive benefit system maintained by the Society acted as a check upon the adoption of aggressive action. Indeed, the trade union leaders had been at pains to impress the Royal Commission in 1867 with this point. Caution and yet more caution was a characteristic of the official policy of the Amalgamated Society prior to 1875. Even the Nine Hours Movement in 1871 owed little of its success to official support from the Society. And, after 1875, it was the friendly society features that drew the fire of the New Unionists led by John Burns and Tom Mann. Burns, to whom the great "Amalgamateds" with their extensive benefit arrangements were "coffin clubs," epitomized the New Unionists' criticism in the following terms:

Constituted as it is, Unionism carries within itself the source of its own dissolution. . . . Their [the trade unions'] assumption of the duties and responsibilities that only the State or the whole country can discharge, in the nature of sick and superannuation benefits, at the instance of the middle class, is crushing out the larger Unions by taxing their members to an unbearable extent. This so cripples them that the fear of being unable to discharge their friendly society liabilities often makes them subject to encroachments by the masters without protest. The result of this is that all of them have ceased to be Unions for maintaining the rights of labour, and have degenerated into mere middle and upper class rate-reducing institutions.⁴

In the third place, the organization of the Society made the efficient execution of any policy very difficult. The rules

¹Trade Unionist, April 11, 1891.

²See, for example, Allan to the Woolwich 2d Branch, January 31, 1868.

³See Amalgamated Society of Engineers, Annual Report, 1891 (London, 1892).

⁴Justice, September 3, 1887; also quoted in Webb, op. cit., p. 385.

of the A.S.E. were framed with the intention that no strike should occur without the knowledge and consent of the Executive Council. In practice, however, these rules were frequently disregarded, and the first inkling of trouble that reached the Council was an appeal for assistance in a strike that had already begun.¹ The district committees were entrusted with the oversight of trade matters under the supervision of the Council. These committees were composed of men working at the trade. Moreover, the personnel of these committees was subject to frequent change, with the result that there was little opportunity to train skilled negotiators. Furthermore, the increasing burden of administering the affairs of a rapidly growing society with an extensive scheme of benefits and an involved financial system made it more and more difficult for the overworked officials at the head office to direct the activities of these committees effectively. In addition, branches had the power to place members on donation benefit. What frequently happened, therefore, when a dispute arose, was that the branch withdrew its members, placed them on donation benefit, and reported the matter to the district committee. The matter was also reported to the Council, but hostilities had already commenced, and the Society was committed to a struggle concerning the nature of which its directing body knew little or nothing. Beginning in the early seventies, these unauthorized disputes became rather numerous, and the Society sought to check them. However, in spite of warnings, fines, and even expulsion for participation in these unsanctioned disputes, the members were not restrained.² Yet, to make any trade policy effective, it is necessary to have adequate administrative control over the members, and this condition was lacking as far as the A.S.E. was concerned between 1851 and 1892. The members hoped they had solved this difficulty in 1892 by the creation of a full-time, paid Executive Council and full-time, paid organizing district delegates.

As a concluding note, it may be remarked that if the experience of the A.S.E. between 1851 and 1892 shows anything, it shows the inability of a union to control the supply of labor in the trades over which it claimed jurisdiction during periods of rapid technological change, and the consequent relative ineffectiveness of a policy based primarily on control of this supply. Prior to 1874, the A.S.E. had relied mainly on tactics affecting the supply side of the equation of exchange. It was a recognition

¹Monthly Report, November, 1873.

²Ibid., December, 1872; ibid., May, 1876; Jubilee Souvenir Year Book, p. 71; ibid., p. 74.

of the relative ineffectiveness of these tactics that led the members, after 1874, to adopt, in addition, tactics, such as aggressive collective bargaining, strikes, and political pressure, through which influence could be exerted on the demand side.

